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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/507,466 | 02/22/2000 | David R. Brown | M3477.0000/P011 | 2426 |

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EXAMINER

NGUYEN, THONG Q

ART UNIT PAPER NUMBER

2872

DATE MAILED: 05/11/2005

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/507,466

Applicant(s)

DAVID R. BROWN

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-10 and 12-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-18 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-10 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment filed on 2/11/2005. It is noted that in the mentioned amendment, applicant has made changes to the specification and the claims.

Regarding to the claims, applicant has amended claims 1 and 9 and added a new set of claims, i.e., claims 19-22, into the application. A review of the newly-added claims has resulted that the scope of the device in the newly-added claims is similar to that of the amended claims, and thus all pending claims 1-3, 6-10 and 12-22 are examined in this Office action.

Note: Claims 5 and 11 were canceled by applicant in the amendment of Aug. 1, 2001 and claim 4 was canceled by applicant in the amendment of Feb. 25, 2002.

Claim Objections

2. Claim 9 is objected to because of the following informalities. Appropriate correction is required.

Claim 9 is unclear by the feature thereof "an optical device... a substrate, the substrate, the substrate adjacent to a medium, the substrate comprising" (lines 3-5). The mentioned feature contains at least one grammatical error. Should the mentioned feature be changed to --an optical device... a substrate adjacent to a medium, the substrate comprising-- to make clear the structure of the device claimed?

Claim Rejections - 35 USC § 102

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-3, 8-10, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Chahroudi (U.S. Patent No. 5,198,922, of record).

Chahroudi discloses an optical system having three optical elements (1-3). The optical system is subjected to receive light from a light source so that the light is splitted into transmissive light or reflective light dependent upon the operation of the optical element (1) disposed between the other two optical elements (2, 3). In particular, the optical system (10) comprises a first element (3) having an entrance planar surface and an output roughed surface, a shutter (1) having both roughed entrance and emitted surface and acting as a medium adjacent to both elements (2,3), and a second element (2) having an output planar surface and an entrance roughed surface. The roughed surface of each elements (2, 3) comprises a pattern of microwedged projections wherein light transmits through them will change the directions. The microwedged projections have different physical shapes with respect to each other in a three-dimensional configuration so that a light beam bundle incident on the microwedged projections is emitted from the projections by different directions. It is also noted that the light incident on each projection and emit from each projection will follow different directions from different parts of the projection.

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In other words, the light emitting from a microwedged projection will direct/guide in an optical path which is different from the optical path of another beam passing through other microwedged projection. Regarding to the direction of light passing through the pattern of microwedged projections formed on the output roughed surface of the element (3), the light passing through different facets/sections of each microwedged projection follows different directions in the shutter (1) which acts as a medium adjacent to the element (3). For instance, the microwedged projections as shown in figure 2 has a triangle configuration constituted by two side facets formed a vertex at the top edges of the side facets or a polygonal configuration constituted by two side facets and a top section linked the two side facets. The light in the form of a bundle incident on each of the microwedged projection will pass through all the side facets and top section, if any, and the light passing through the facets will follow different direction based on the Snell's law.

Claim Rejections - 35 USC . 103

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1-2, 8-10, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tedesco (U.S. Patent No. 5,861,990, of record) in view of Chahroudi (U.S. Patent No. 5,198,922, of record).

Tedesco discloses an optical device for receiving light from a light source so that the light outputting from the device is a diffusing light. The device (102) is

positioned adjacent a medium and comprises a light entrance surface (104) and an output/exit light surface (106) wherein a pattern of microwedged projections are formed. The microwedged projections have different physical shapes with respect to each other in a three-dimensional configuration so that a light beam bundle incident on the microwedged projections is emitted from the projections by different directions. It is also noted that the light incident on each projection and emit from each projection will follow different directions from different parts of the projection. In other words, a light beam emitting from a side (116) of a microwedged projection will direct/guide in an optical path into the medium which is different from the optical path of the beam passing through the other side (118) of the microwedged projection. As such, light reflected from two adjacent microwedged projections will provide respectively non-adjacent portions of a pattern. See Tedesco, columns 3-4 and fig. 1, for example. Regarding to the shape of the projections, it is noted that some projections have a curved shaped and some have an approximately parabolic shape. The only feature missing from the art of Tedesco is that Tedesco does not disclose that each projection comprises planar surfaces as recited in the present claims 1 and 9. However, the feature concerning the planar shape of the output surface of the projections as claimed is merely that of a preferred embodiment and no criticality has been disclosed. The support for that conclusion is found in the present specification at page 12 and shown in figure 6 in which applicant has admitted that the output surface of the projections are curved surface. Furthermore, the concept of

making a surface having a pattern formed thereon wherein the pattern comprises a set of smooth projections or irregularly/roughed projections are clearly suggested to one skilled in the art as can be seen in the optical system provided by Chahroudi. In particular, Chahroudi discloses two embodiments in which the pattern has a smooth projections (see the first embodiment shown in figure 1) or the pattern has a roughed/irregular projections of planar surfaces (see the second embodiment shown in figure 2). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical element provided by Tedesco by using a texture surface constituting by roughed/irregular structure of planar surfaces as suggested by either Chahroudi or Hansen et al for the purpose of improving the optical performance and meeting a particular design.

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tedesco in view of Chahroudi as applied to claim 1 above, and further in view of Hoch et al (U.S. Patent No, 6,002,520, of record).

The combined product as provided by Tedesco and either Chahroudi or Hansen et al meets all of the device as claimed in present claim 6 except the feature of a lens for performing a Fourier transform operation. However, the use of a diffusing element in a system having a light source, a lens and a diffusing element is clearly disclosed in the art as can be seen in the optical system provided by Hoch et al. See columns 2-5 and figs. 1-4. Thus, it would have been obvious to one skilled in the art at the time the invention was made to utilize/apply the diffusing

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device provided by Tedesco and either Chahroudi or Hansen et al in an optical system having a lens disposed in front of the diffusing device as suggested by Hoch et al so that the lens will perform a Fourier transform operation of the light before it enters the diffusing element.

Allowable Subject Matter

8. Claims 12-18 are allowed over the cited art.

Response to Arguments

9. Applicant's arguments filed on 2/11/2005, pages 9-12, have been fully considered but they are not persuasive.

First, applicant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

Second, regarding to the rejection of claims 1-3, 8-10, now applied to claims 1-3, 8-10 and 19-20, under 35 U.S.C. 102(b) as being anticipated by Chahroudi (U.S. Patent No. 5,198,922), applicant's arguments provided in pages 9-10 have been fully considered but they are not persuasive. Applicant has argued that the art of Chahroudi does not provide all features recited in the claims, the Examiner respectfully disagrees with the applicant and respectfully invited the applicant to show which feature recited in the claims which features are not disclosed by Chahroudi. Applicant should note that the substrate adjacent to a medium is

disclosed by Chahroudi via the element (3) adjacent to the medium (1) wherein the substrate has a smooth regularly shaped exterior surface and an irregular shaped exterior surface in which a pattern of microwedged projections are formed. Regard to the first and second optical elements recited in the claim 1 then the side facets of the triangular microwedged projection formed on the surface of the element (3) are the first and second optical elements. Regarding to the direction of light passing through the pattern of microwedged projections formed on the output roughed surface of the element (3), the light passing through different facets/sections of each microwedged projection follows different directions in the shutter (1) which acts as a medium adjacent to the element (3). For instance, the microwedged projections as shown in figure 2 has a triangle configuration constituted by two side facets formed a vertex at the top edges of the side facets or a polygonal configuration constituted by two side facets and a top section linked the two side facets. The light in the form of a bundle incident on each of the microwedged projection will pass through all the side facets and top section, if any, and the light passing through the facets will follow different direction based on the Snell's law.

Third, regarding to the rejection of claims 1-2, 8-10, now applied to claims 1-2, 8-10, and 19-22, under 35 U.S.C. 103(a) as being unpatentable over Tedesco, and Chahroudi, applicant's arguments provided in the amendment, pages 10-11, have been fully considered but they are not persuasive.

- a) In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).
- b) In response to applicant's argument that the structures of Tedesco and Chahroudi are different from each other, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).
- c) In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references used in the rejection are directed to the use of an optical element having a patterns of projections for adjusting the directions

of light emitted from the optical element. Applicant should also note that the feature concerning the planar shape of the output surface of the projections as claimed is merely that of a preferred embodiment and no criticality has been disclosed. The support for that conclusion is found in the present specification at page 12 and shown in figure 6 in which applicant has admitted that the output surface of the projections are curved surface. Furthermore, the concept of making a surface having a pattern formed thereon wherein the pattern comprises a set of smooth projections or irregularly/roughed projections are clearly suggested to one skilled in the art as can be seen in the optical system provided by Chahroudi. In particular, Chahroudi discloses two embodiments in which the pattern has a smooth projections (see the first embodiment shown in figure 1) or the pattern has a roughed/irregular projections of planar surfaces (see the second embodiment shown in figure 2). Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the optical element provided by Tedesco by using a texture surface constituting by roughed/irregular structure of planar surfaces as suggested by either Chahroudi or Hansen et al for the purpose of improving the optical performance and meeting a particular design.

Fourth, regarding to the rejection of claims 6-7 under 35 USC 103 over the art of Tedesco, Chahroudi and Hoch et al, applicant's arguments provided in the amendment, pages 11-12, have been fully considered but they are not persuasive. It is noted that applicant has not provided any specific arguments

except the combination of art does not disclose all of the elements claimed. The Examiner respectfully disagrees with the applicant and respectfully invited the applicant to show which feature recited in the claims which features are not disclosed by Tedesco and Chahroudi.

The device (102) is positioned adjacent a medium and comprises a light entrance surface (104) and an output/exit light surface (106) wherein a pattern of microwedged projections are formed. The microwedged projections have different physical shapes with respect to each other in a three-dimensional configuration so that a light beam bundle incident on the microwedged projections is emitted from the projections by different directions. It is also noted that the light incident on each projection and emit from each projection will follow different directions from different parts of the projection. In other words, a light beam emitting from a side (116) of a microwedged projection will direct/guide in an optical path into the medium which is different from the optical path of the beam passing through the other side (118) of the microwedged projection. As such, light reflected from two adjacent microwedged projections will provide respectively non-adjacent portions of a pattern. See Tedesco, columns 3-4 and fig. 1, for example. Regarding to the shape of the projections, it is noted that some projections have a curved shaped and some have an approximately parabolic shape. The only feature missing from the art of Tedesco is that Tedesco does not disclose that each projection comprises planar surfaces as recited in the present claims 1 and 9. However, the feature concerning the planar

shape of the output surface of the projections as claimed is disclosed by
Chahrودي.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

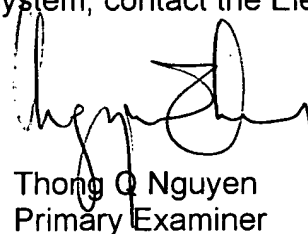
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q. Nguyen
Primary Examiner
Art Unit 2872
